

What is claimed is:

1. A continuous process for assembling a slider onto fastening strips comprising the steps of:
5 providing a first fastening strip,
providing a second fastening strip
providing a slider adapted to be slidably disposed on said fastening strips and facilitating occlusion of said fastening strips when moved towards a first end thereof and facilitating the deocclusion of said
10 fastening strips when moved in the opposite direction, said fastening strips and said slider having a longitudinal X axis and a transverse Y axis, said transverse Y axis being perpendicular to said longitudinal
15 X axis, said fastening strips and said slider having a vertical Z axis, said vertical Z axis being perpendicular to said longitudinal X axis, said vertical Z axis being perpendicular to said transverse Y axis, said slider comprising a housing having a separator facilitating the
20 deocclusion of said fastening strips,
urging said slider onto said fastening strips at said first end in said horizontal X axis.

2. The invention as in claim 1 further providing
25 that a length of said first fastening strip is occluded to a corresponding length of said second fastening strip to provide an occluded length, said separator penetrates a portion of said occluded length of said fastening strips.

30 3. The invention as in claim 1 further providing that said first end is a sealed end.

4. The invention as in claim 1 further providing that said sealed end is a seam.

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5. The invention as in claim 3 further providing that said first end has an opening in said sealed end to accommodate the separator.

5 6. The invention as in claim 4 further providing that said first fastening strip and said second fastening strip are portions of a container, and said step of urging said slider onto said fastening strips is performed when said fastening strips are portions of said
10 container.

7. The invention as in claim 1 further providing said fastening strips are traveling in a path, said slider is positioned in said path of said fastening
15 strips.

8. The invention as in claim 5 further providing that said first fastening strip and said second fastening strip create a leakproof seal at said first end when said
20 fastening strips are occluded.

9. The invention as in claim 1 further providing said slider with a flexible occlusion member.

25 10. The invention as in claim 1 further providing said slider with a curved shoulder.

11. The invention as in claim 1 further providing said first fastening strip with an offset.
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12. The invention as in claim 1 further comprising the step of positioning the fastening strips on a first drum and positioning the slider on a second drum.

13. The invention as in claim 12 further providing that said first drum and said second drum have a common axis.

5 14. The invention as in claim 12 further providing that said first drum moves the fastening strips faster than said second drum moves the slider.

10 15. The invention as in claim 12 further providing that said slider is removably attached to said second drum.

15 16. The invention as in claim 15 further providing said second drum with a slider cartridge to hold said slider.

17. The invention as in claim 16 further providing that said cartridge moves toward said fastening strips.

20 18. The invention as in claim 17 further providing said fastening strips are traveling in a path, said slider is positioned in the path of said fastenings strips.

25 19. The invention as in claim 12 further providing said fastening strips are removably attached to said first drum.

30 20. The invention as in claim 19 further providing a vacuum for holding said fastening strips on said first drum.

35 21. The invention as in claim 18 further providing said slider is removed from said slider cartridge.

22. The invention as in claim 21 further providing said slider cartridge moves away from said first drum.

23. The invention as in claim 20 further providing
5 said fastening strips are removed from said first drum.

24. The invention as in claim 1 further providing that said fastening strips are positioned on a conveyor.

10 25. The invention as in claim 24 further providing that said fastening strips are removably attached to the conveyor.

26. The invention as in claim 25 further providing
15 a vacuum for holding said fastening strips on said conveyor.

27. The invention as in claim 24 further providing a holder for holding the slider.
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28. The invention as in claim 27 further providing a vibrating feeder to supply the slider to the holder.

29. The invention as in claim 27 further providing
25 that said fastening strips are traveling in a path, said holder positions said slider in the path of said fastening strips.

30. The invention as in claim 29 further providing
30 said slider is removed from said holder.

31. The invention as in claim 25 further providing said fastening strips are removed from said conveyor.

32. An apparatus for a continuous process for
35 assembling a slider onto fastening strips, said slider

adapted to be slidably disposed on said fastening strips and facilitating occlusion of said fastening strips when moved towards a first end thereof and facilitating the deocclusion of said fastening strips when moved in the opposite direction, said fastening strips and said slider having a longitudinal X axis and a transverse Y axis, said transverse Y axis being perpendicular to said longitudinal X axis, said fastening strips and said slider having a vertical Z axis, said vertical Z axis being perpendicular to said longitudinal X axis, said vertical Z axis being perpendicular to said transverse Y axis, said slider comprising a housing having a separator facilitating the deocclusion of said fastening strips, said apparatus comprising:

15 a fastening strip holder which holds a first fastening strip and a second fastening strip,
a slider holder which holds a slider,
the slider holder and the fastening strip holder urge said slider onto said fastening strips at said first end
20 in said horizontal X axis.

33. The invention as in claim 32 wherein a length of said first fastening strip is occluded to a corresponding length of said second fastening strip to provide an occluded length, the slider holder and the fastening strip holder urge the slider onto the fastening strips such that said separator penetrates a portion of said occluded length of said fastening strips.

30 34. The invention as in claim 32 wherein said first end is a sealed end.

35 35. The invention as in claim 32 wherein said sealed end is a seam.

36. The invention as in claim 34 wherein said first end has an opening in said sealed end to accommodate the separator.

5 37. The invention as in claim 35 wherein said first fastening strip and said second fastening strip are portions of a container, and said slider holder urges said slider onto said fastening strips when said fastening strips are portions of said container.

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38. The invention as in claim 32 wherein said fastening strip holder is traveling in a path, said slider is positioned in said path of said fastening strips.

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39. The invention as in claim 32 wherein the fastening strip holder is a first drum and the slider holder is on a second drum.

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40. The invention as in claim 39 wherein said first drum and said second drum have a common axis.

41. The invention as in claim 39 wherein said first drum moves the fastening strips faster than said second drum moves the slider.

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42. The invention as in claim 39 wherein said slider is removably attached to said slider holder.

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43. The invention as in claim 42 wherein said slider holder is a slider cartridge to hold said slider.

44. The invention as in claim 43 wherein said cartridge moves toward said fastening strips.

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45. The invention as in claim 44 wherein said fastening strips are traveling in a path, said slider is positioned in the path of said fastenings strips.

5 46. The invention as in claim 39 wherein said fastening strips are removably attached to said first drum.

10 47. The invention as in claim 46 further comprising a vacuum for holding said fastening strips on said first drum.

15 48. The invention as in claim 45 wherein said slider is removed from said slider cartridge.

 49. The invention as in claim 48 wherein said slider cartridge moves away from said first drum.

20 50. The invention as in claim 47 wherein said fastening strips are removed from said first drum.

 51. The invention as in claim 32 wherein said fastening strip holder is a conveyor.

25 52. The invention as in claim 51 wherein said fastening strips are removably attached to the conveyor.

30 53. The invention as in claim 52 further comprising a vacuum for holding said fastening strips on said conveyor.

 54. The invention as in claim 51 further comprising a vibrating feeder to supply the slider to the slider holder.

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55. The invention as in claim 51 wherein said fastening strips are traveling in a path, said slider holder positions said slider in the path of said fastening strips.

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56. The invention as in claim 55 wherein said slider is removed from said holder.

57. The invention as in claim 52 wherein said fastening strips are removed from said conveyor.

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58. A closure device comprising:

a first fastening strip;

a second fastening strip;

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a slider adapted to be slidably disposed on said fastening strips and facilitating the occlusion of said fastening strips when moved towards a first end thereof and facilitating the deocclusion of said fastening strips when moved towards a second end thereof, said fastening strips and said slider having a longitudinal X axis and a transverse Y axis, said transverse Y axis being perpendicular to said longitudinal X axis, said fastening strips and said slider having a vertical Z axis, said vertical Z axis being perpendicular to said longitudinal X axis, said vertical Z axis being perpendicular to said transverse Y axis, said slider comprising a housing having a first flexible occlusion member for facilitating occlusion of said fastening strips when said slider is moved to said first end of said fastening strips.

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59. The invention as in claim 58, wherein said first flexible portion comprises a first inwardly biased leg for engaging said first fastening strip.

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60. The invention as in claim 58 further comprising a second flexible occlusion member for facilitating

occlusion of said fastening strips when said slider is moved to said first end of said fastening strips.

61. The invention as in claim 60, wherein said
5 second flexible occlusion member comprises a second inwardly biased leg for engaging said second fastening strip.

62. The invention as in claim 61 wherein said first
10 flexible occlusion member comprises a first inwardly biased leg for engaging said first fastening strip.

63. The invention as in claim 60 wherein said
15 fastening strips are disposed between said first and second flexible occlusion members.

64. The invention as in claim 58 wherein said first
flexible occlusion member has a first position when the
first flexible occlusion member engages the first
20 fastening strip and a second position when the first flexible occlusion member is not engaged with the first fastening strip.

65. The invention as in claim 64 wherein the second
25 position is deflected from the first position.

66. The invention as in claim 60 wherein said second
flexible occlusion member has a first position when the
second flexible occlusion member engages the second
30 fastening strip and a second position when the second flexible occlusion member is not engaged with the second fastening strip.

67. The invention as in claim 66 wherein the second
35 position is deflected from the first position.

68. The invention as in claim 58 wherein said first flexible occlusion member flexes for facilitating the attachment of said slider onto said fastening strips in
5 said horizontal X axis.

69. The invention as in claim 60 wherein said second flexible occlusion member flexes for facilitating the attachment of said slider onto said fastening strips in
10 said horizontal X axis.

70. The invention as in claim 58 wherein said fastening strips have a first width and a second width, said first flexible occlusion member has a first position
15 for the first width and a second position for the second width.

71. The invention as in claim 70 wherein said first flexible occlusion member will take a set to the first
20 position.

72. The invention as in claim 70 wherein said first flexible occlusion member will take a set to the second
25 position.

73. The invention as in claim 58 wherein said fastening strips have a first width, said slider can be used with a second set of fastening strips having a second width, said first flexible occlusion member has a first
30 position for the first width and a second position for the second width.

74. The invention as in claim 73 wherein said first flexible occlusion member will take a set to the first
35 position.

75. The invention as in claim 73 wherein said first flexible occlusion member will take a set to the second position.

5 76. The invention as in claim 58 wherein said fastening strips comprise U-channel type fastening strips.

77. The invention as in claim 58 wherein said fastening strips comprise arrowhead type fastening strips.

10 78. The invention as in claim 58 wherein said fastening strips comprise profile type fastening strips.

79. A slider adapted to be slidably disposed on first and second fastening strips, said slider facilitating the occlusion of said fastening strips when moved towards said first end thereof and facilitating the deocclusion of said fastening strips when moved towards said second end thereof, said slider comprising:

20 a longitudinal X axis and a transverse Y axis, said transverse Y axis being perpendicular to said longitudinal X axis, said slider having a vertical Z axis, said vertical Z axis being perpendicular to said longitudinal X axis, said vertical Z axis being perpendicular to said transverse Y axis;

25 a housing having a first flexible occlusion member for facilitating occlusion of said fastening strips when said slider is moved to said first end of said fastening strips.

30 80. The invention as in claim 79, wherein said first flexible portion comprises a first inwardly biased leg for engaging said first fastening strip.

35 81. The invention as in claim 79 further comprising a second flexible occlusion member for facilitating

occlusion of said fastening strips when said slider is moved to said first end of said fastening strips.

82. The invention as in claim 81, wherein said
5 second flexible occlusion member comprises a second inwardly biased leg for engaging said second fastening strip.

83. The invention as in claim 82 wherein said first
10 flexible occlusion member comprises a first inwardly biased leg for engaging said first fastening strip.

84. The invention as in claim 81 wherein said
15 fastening strips are disposed between said first and second flexible occlusion members.

85. The invention as in claim 79 wherein said first
flexible occlusion member has a first position when the first flexible occlusion member engages the first
20 fastening strip and a second position when the first flexible occlusion member is not engaged with the first fastening strip.

86. The invention as in claim 85 wherein the second
25 position is deflected from the first position.

87. The invention as in claim 81 wherein said second
flexible occlusion member has a first position when the second flexible occlusion member engages the second
30 fastening strip and a second position when the second flexible occlusion member is not engaged with the second fastening strip.

88. The invention as in claim 87 wherein the second
35 position is deflected from the first position.

89. The invention as in claim 79 wherein said first flexible occlusion member flexes for facilitating the attachment of said slider onto said fastening strips in said horizontal X axis.

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90. The invention as in claim 81 wherein said second flexible occlusion member flexes for facilitating the attachment of said slider onto said fastening strips in said horizontal X axis.

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91. The invention as in claim 79 wherein said fastening strips have a first width and a second width, said first flexible occlusion member has a first position for the first width and a second position for the second width.

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92. The invention as in claim 91 wherein said first flexible occlusion member will take a set to the first position.

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93. The invention as in claim 91 wherein said first flexible occlusion member will take a set to the second position.

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94. The invention as in claim 79 wherein said fastening strips have a first width, said slider can be used with a second set of fastening strips having a second width, said first flexible occlusion member has a first position for the first width and a second position for the second width.

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95. The invention as in claim 94 wherein said first flexible occlusion member will take a set to the first position.

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96. The invention as in claim 94 wherein said first flexible occlusion member will take a set to the second position.

5 97. A container comprising:

 first and second side walls, said first and second side walls including mating first and second fastening strips respectively, said first and second fastening strips comprising a closure device arranged to be
10 interlocked over a predetermined length,

 a slider adapted to be slidably disposed on said fastening strips and facilitating the occlusion of said fastening strips when moved towards a first end thereof and facilitating the deocclusion of said fastening strips
15 when moved towards a second end thereof, said fastening strips and said slider having a longitudinal X axis and a transverse Y axis, said transverse Y axis being perpendicular to said longitudinal X axis, said fastening strips and said slider having a vertical Z axis, said
20 vertical Z axis being perpendicular to said longitudinal X axis, said vertical Z axis being perpendicular to said transverse Y axis, said slider comprising a housing having a first flexible occlusion member for facilitating occlusion of said fastening strips when said slider is
25 moved to said first end of said fastening strips.

98. The invention as in claim 97, wherein said first flexible portion comprises a first inwardly biased leg for engaging said first fastening strip.

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99. The invention as in claim 97 further comprising a second flexible occlusion member for facilitating occlusion of said fastening strips when said slider is moved to said first end of said fastening strips.

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100. The invention as in claim 99, wherein said second flexible occlusion member comprises a second inwardly biased leg for engaging said second fastening strip.

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101. The invention as in claim 100 wherein said first flexible occlusion member comprises a first inwardly biased leg for engaging said first fastening strip.

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102. The invention as in claim 99 wherein said fastening strips are disposed between said first and second flexible occlusion members.

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103. The invention as in claim 97 wherein said first flexible occlusion member has a first position when the first flexible occlusion member engages the first fastening strip and a second position when the first flexible occlusion member is not engaged with the first fastening strip.

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104. The invention as in claim 103 wherein the second position is deflected from the first position.

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105. The invention as in claim 99 wherein said second flexible occlusion member has a first position when the second flexible occlusion member engages the second fastening strip and a second position when the second flexible occlusion member is not engaged with the second fastening strip.

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106. The invention as in claim 105 wherein the second position is deflected from the first position.

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107. The invention as in claim 97 wherein said first flexible occlusion member flexes for facilitating the

attachment of said slider onto said fastening strips in said horizontal X axis.

108. The invention as in claim 99 wherein said second
5 flexible occlusion member flexes for facilitating the attachment of said slider onto said fastening strips in said horizontal X axis.

109. The invention as in claim 97 wherein said
10 fastening strips have a first width and a second width, said first flexible occlusion member has a first position for the first width and a second position for the second width.

110. The invention as in claim 109 wherein said
15 first flexible occlusion member will take a set to the first position.

111. The invention as in claim 109 wherein said first
20 flexible occlusion member will take a set to the second position.

112. The invention as in claim 97 wherein said
fastening strips have a first width, said slider can be
25 used with a second set of fastening strips having a second width, said first flexible occlusion member has a first position for the first width and a second position for the second width.

113. The invention as in claim 112 wherein said first
30 flexible occlusion member will take a set to the first position.

114. The invention as in claim 112 wherein said first
35 flexible occlusion member will take a set to the second position.

115. The invention as in claim 97 wherein said fastening strips comprise U-channel type fastening strips.

5 116. The invention as in claim 97 wherein said fastening strips comprise arrowhead type fastening strips.

117. The invention as in claim 97 wherein said fastening strips comprise profile type fastening strips.

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